



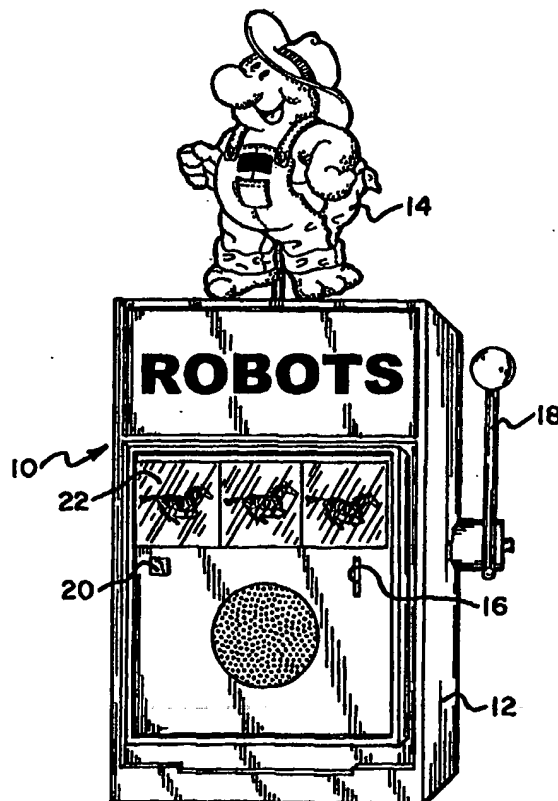
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : <b>A63F 9/24</b>	<b>A1</b>	(11) International Publication Number: <b>WO 98/14251</b> (43) International Publication Date: 9 April 1998 (09.04.98)
<p>(21) International Application Number: PCT/US97/17648</p> <p>(22) International Filing Date: 29 September 1997 (29.09.97)</p> <p>(30) Priority Data: 60/027,283 30 September 1996 (30.09.96) US</p> <p>(71) Applicant: ATLANTIC CITY COIN &amp; SLOT SERVICE COMPANY, INC. [US/US]; 201 West Decatur Avenue, Pleasantville, NJ 08232 (US).</p> <p>(72) Inventors: HARTMANN, Brian; 201 West Decatur Avenue, Pleasantville, NJ 08232 (US). SEELIG, Jerald; 201 West Decatur Avenue, Pleasantville, NJ 08232 (US).</p> <p>(74) Agents: LEHRER, Norman, E. et al.; 1205 North Kings Highway, Cherry Hill, NJ 08034 (US).</p>		<p>(81) Designated States: AU, CA, NZ, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report.</i></p>

(54) Title: COMBINED SLOT MACHINE AND ROBOT

## (57) Abstract

The gaming system (10) of the present invention is comprised of one or more slot machines or other gaming machines (12) associated with a three-dimensional robot (14). The robot (14) is in the form of an animate figure which may take the shape of a real or fictitious animal or of a human being. The robot in the form of a human being may be very realistic or may be in the form of a cartoon character or the like. The robot is preprogrammed to make sounds or to speak and to move in response to the results of each play on the slot machine. For example, should the slot machine land on a winning combination, the robot might be programmed to jump up and down, wave its arms and shout to the player, "You have won, you have won".



**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakhstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

Description

## COMBINED SLOT MACHINE AND ROBOT

5

Technical Field

The present invention is directed toward an improved slot machine and more particularly toward a slot machine associated with an animated robot for improved entertainment value.

10

Background Art

Traditional slot machines commonly in use are normally stand-alone devices intended to be played by a player who inserts one or more coins therein and either pushes a button or pulls a lever to initiate the play. Depending on the final position of the spinning wheels within the slot machine, the machine determines whether or not and how much the player has won.

15

Slot machines are normally a lucrative source of income for a casino. That is, they generally produce more income per square foot of floor space than table games such as blackjack or craps or the like. However, slot players often become bored, particularly, when they are losing. They may, therefore, stop playing and leave or look for a different machine. Furthermore, although various slot machines often are given various different names, they are essentially all the same. One inserts coins therein and waits for the wheels to stop to determine whether he or she has won.

20

25

In an attempt to maintain slot players' interest in playing slot machines, modifications have been proposed and made to the machines. For example, progressive jackpots have been added. In a progressive jackpot, a

number of machines are electronically tied together and all players are competing to win a jackpot amount which would exceed the amount that could normally be won on their particular machine. Each time there is no winner, the  
5 amount of the jackpot increases based on the amount of money being played in the machines. Again, however, if a player is not winning, he becomes bored and eventually will stop playing.

Other advances have also been made to add interest to the playing of a slot machine and to make the same somewhat more of a spectator  
10 game. The Bonus Road Rally slot machine system distributed by AC Coin & Slot Service Company, Inc., of Pleasantville, New Jersey, includes a row of slot machines with a large car racing display above the machines which is visible by groups of spectators standing behind the slot machine players. Each slot machine is associated with a different race car on the race track and the race  
15 car moves depending on the outcome of the play on the slot machine. The game, therefore, gives the appearance of an automobile race thereby providing spectator interest and increased interest by the slot machine player since the race provides an alternative way for the player to win a prize. The Bonus Road Rally system is described in U.S. Patent No. 5,560,603.

20 Other systems have also been proposed in the past for increasing interest in slot machine play. U.S. Patent No. 4,871,171, for example, discloses a slot machine which is attached to an auxiliary game in the form of a cage carrying numbered lottery balls which is arranged to rotate and to release one of the balls into a transparent tube. If the player does not win with the slot machine,  
25 the auxiliary game is activated so that he has a second chance to win. The auxiliary game, however, is extremely simple and would, therefore, appear to also eventually become somewhat boring to the slot machine player.

Disclosure of the Invention

The present invention is intended to overcome the deficiencies of the prior art discussed above and to provide a system which would be entertaining to both the slot machine player and to others in the vicinity of the slot machine to thereby maintain the interest of the players. The gaming system of the present invention is comprised of one or more slot machines or other gaming machines associated with a three-dimensional robot. The robot is in the form of an animate figure which may take the shape of a real or fictitious animal or of a human being. The robot in the form of a human being may be very realistic or may be in the form of a cartoon character or the like. The robot is preprogrammed to make sounds or to speak and to move in response to the results of each play on the slot machine. For example, should the slot machine land on a winning combination, the robot might be programmed to jump up and down, wave its arms and shout to the player, "You have won, you have won."

Brief Description of the Drawing

For the purpose of illustrating the invention, there is shown in the accompanying drawing one form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

Figure 1 is an overall view, partially in schematic form, of a combined slot machine and robot in accordance with the invention, and

Figure 2 is a schematic block diagram showing the operation of the invention.

Best Mode for Carrying Out the Invention

Referring now to the drawing in detail wherein like reference  
5 numerals have been used in the figures to designate like elements, there is shown in Figure 1 a combined slot machine and robot constructed in accordance with the principles of the present invention and designated generally as 10. The system 10 is comprised essentially of a slot machine 12 and a robot 14 positioned preferably on top of the slot machine 12.

10 The robot may be in the form of a realistic or fictional animal. Alternatively, the robot could have human features and be very human like or be in the form of a cartoon character or the like. Furthermore, the robot 14 could be relatively simple having the ability for creating limited sounds and having limited motion. Alternatively, the robot 14 could be extremely sophisticated having the  
15 ability to speak and to make very precise and complex movements. A variety of such robots are commonly used in other industries and are available in the marketplace. Such robots and the sources of the same are described, for example, in the book entitled "Illusion of Life Lifelike Robots," by Gene William Poor, published in 1991 by Creative Learning Systems, Inc., of San Diego,  
20 California.

The slot machine 12 is of generally conventional construction and includes a coin slot 16 and a lever arm 18. Most slot machines also include a push button 20 that can be activated in order to initiate play in lieu of the lever arm 18. The slot machine 12 also includes a display window 22 wherein the  
25 results of each play on the machine can be viewed. The slot machine may be either of the conventional mechanical type with rotating wheels or of the more modern electronic type of machine which simulates rotating wheels and which includes a plurality of electronic video type displays.

Although the use of the slot machine 12 is the preferred type of gaming machine for use with the present invention, it should also be readily apparent that other types of gaming machines such as poker machines, blackjack machines, keno machines and the like may also be useful. It must be understood, therefore, that the description contained herein concerning the use of a slot machine is by way of example only. In any case, regardless of the type of gaming machine being utilized, each slot machine 12 or other gaming machine is associated with a robot 14.

10                   An electrical output line such as shown at 24 extends from the slot machine and is adapted to carry an output signal from the machine. This output signal is intended to be representative of a particular condition or play of the machine. For example, a particular signal may appear on output line 24 indicating that a coin or multiple coins have been played. Or a signal may  
15                   represent the fact that the lever 18 or push button 20 has been activated. In addition, an appropriate signal could appear on output line 24 indicating that the slot machine wheels have stopped and that the player did not win anything or that the wheels have stopped and that the slot machine player has won. A different signal could obviously also appear depending on the amount that has  
20                   been won. As should be readily apparent, a substantial number of different signals could appear individually or in combination on the output line 24 indicating any one or more of a large number of different conditions of play of the slot machine 12.

~~X~~                   The robot 14 includes a processor 26 connected to respond to  
25                   output line 24 and is programmed to the signals on the output line 24 from the slot machine 12. Preferably, the robot has appropriate circuitry 28 for creating various sounds and/or for speaking to the player which is emitted through an appropriate transducer 30. The robot 14 also includes an electronic motor control circuit 32 for controlling a plurality of electromotive or hydraulic devices

such as shown at 34, 36 and 38 for causing various movements such as the mouth or arms, etc. of the robot.

In its simplest form, the robot 14 may comprise only part of an  
5 animal such as the head of a cow or other farm animal. When a signal on output 24 of the slot machine 12 indicates that the player has won a prize, the processor 26 would be programmed to command the cow to make a mooing sound while the mouth was moved by the motor control circuit 32.

In more sophisticated systems, the robot 14 may take the shape of  
10 a lifelike human or cartoon character capable of very sophisticated movements and speech. The robot 14 may be programmed to frown or cry and then console the slot machine player upon an indication on output line 24 that the slot machine did not win. Alternatively, the robot 14 could be programmed to jump up and down and sing or scream such statements as, "You have won," or "You  
15 are a winner" or the like. It may also be possible to have the robot do tricks such as somersaults or to throw candy or other safe projectiles at the slot machine player.

In the preferred embodiment, each slot machine 12 includes its own robot 14 preferably mounted or otherwise arranged at the top thereof.  
20 However, it is also possible to have a single robot or combination of robots associated with a group of machines and which is capable of directing its actions and sounds toward any one of the slot machine players. It is also within the scope of the present invention to provide a single slot machine with a plurality of robots which may respond individually or in combination based on the play of  
25 the game.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the appended claims rather than to the foregoing specification as indicating the scope of the invention.



Claims

1. A gaming system comprising:  
5 a slot machine and a three-dimensional robot associated therewith;  
said slot machine including means for generating an output signal  
indicative of a condition of the operation of said slot machine;  
said robot having the appearance of an animal or person and including at  
least one visibly movable portion, said robot further including motor means for  
10 moving said movable portion;  
means responsive to said output signal from said slot machine for  
controlling said motor means and thereby moving said movable portion of said  
robot.
- 15 2. The system as claimed in Claim 1 wherein said robot includes a plurality  
of movable portions and a plurality of motor means for moving said movable  
portions.
3. The system as claimed Claim 1 wherein said robot includes means for  
20 generating sounds in response to said output signal.
4. The system as claimed in Claim 1 wherein said slot machine includes  
means for generating a plurality of different output signals indicative of a plurality  
of different conditions of said slot machine and wherein said robot is capable of  
25 different movements in response to said different output signals.
5. The system as claimed in Claim 4 wherein said robot includes a plurality  
of movable portions and a plurality of motor means for moving said movable

portions, each of said motor means being responsive to a different one of said out put signals.

5     6.     The system as claimed in Claim 1 wherein said robot has human-like features and is capable of moving and speaking in response to said output signal.

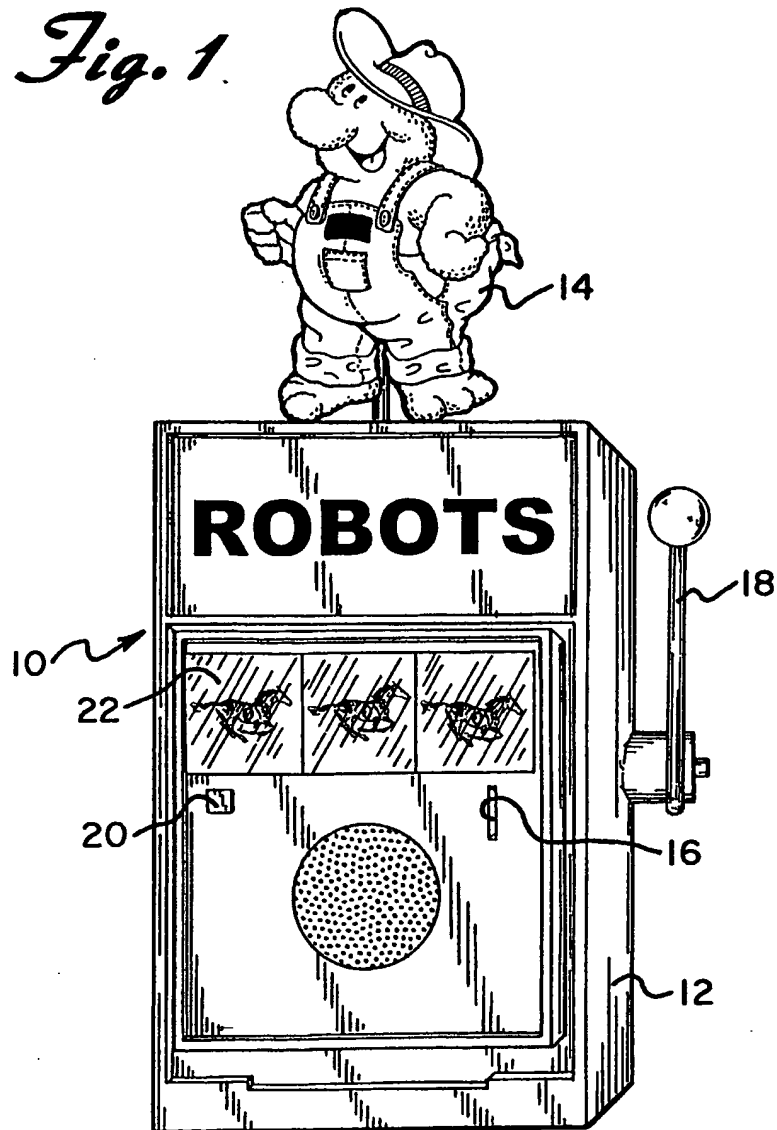
7.     The system as claimed in Claim 1 wherein said robot is mounted on top  
10 of said slot machine.

8.     The system as claimed in Claim 1 further including a plurality of slot machines with each slot machine including means for generating an output signal indicative of a condition of the operation of the same.

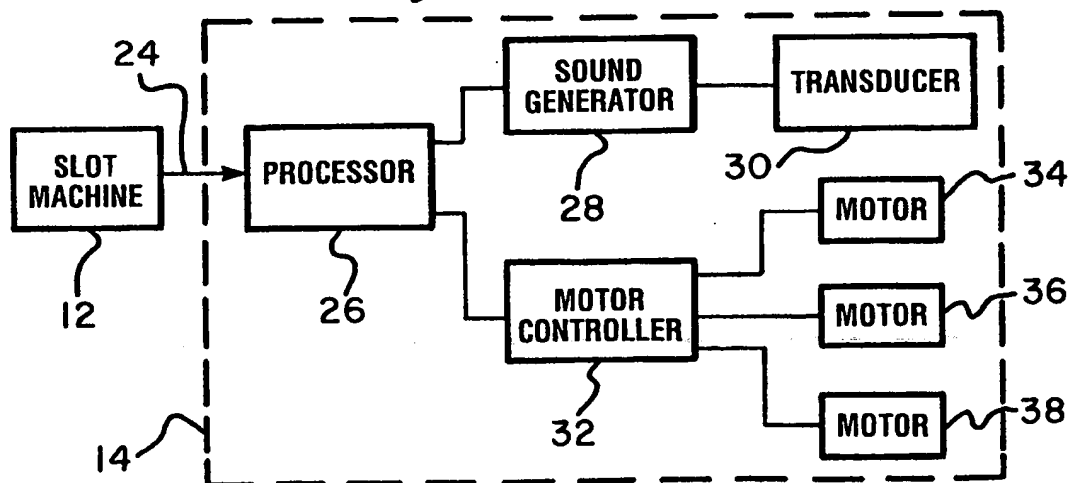
15

9.     The system as claimed in Claim 8 wherein said robot has human-like features and is capable of moving and speaking in response to said output signals from said plurality of slot machines.

*Fig. 1*



*Fig. 2*



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US97/17648

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :A63F 9/24

US CL :463/20, 30, 47

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 463/20, 47

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

463/16, 17, 19, 21, 22, 31, 32, 46

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,799,678 A (TERZIAN et al.) 24 January 1989, entire document.	1-9

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"G" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

17 DECEMBER 1997

Date of mailing of the international search report

08 JAN 1998

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer:

JAMES SCHAAF

Telephone No. (703) 308-3397